

# Work Order ID 83283

April-16-12 2:28:36 PM

\*83283\*

U/R

Page 1

Item ID: D350-748-141TRN

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID: U/R

Item Name: Crosstube Turning Detail

Stop \*NS2\*

Start Date: 16/04/2012 Start Qty: 1.00 \*1\*

Cust Item ID:

Required Date: 30/04/2012 Req'd Qty: 1.00 \*1\*

Customer:

Reference:

Approvals: Process Plan: MLJ Date: 12/04/16 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start \*NR1\*

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D350-748-141	F U/R OK <u>12-04-16</u>

100

0.00

\*100\*

MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

1-Fill tube with sand & install plugs on both ends as per Folio FA648  
2-Turn first side as per Folio FA648  
3- File transition lines smooth.  
FOLIO REV: \_\_\_\_\_  
DWG REV: \_\_\_\_\_

1 0

MMML  
12/04/26

110

QC1- Inspect dimensions to dimension sheet.

0.00

\*110\*

QC

Memo

0.00

Quality Control

1 0

MMML  
12/04/26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



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# Work Order ID 83283

**\*83283\***

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Item ID: D350-748-141TRN

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID: U/R

Item Name: Crosstube Turning Detail

Stop

**\*NS2\***

Start Date: 16/04/2012 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 30/04/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

**\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop

**\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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150

0.00

**\*150\***

Large Fab

Crosstubes

Memo

0.00

Crosstubes

Grind machining marks

*TW*  
*12-05-02*

160

Outsource process - Heat Treat

0.00

**\*160\***

Outsource1

Memo

0.00

Outsource process - Heat Treat

Issue P/O: *16899*  
Heat Treat to min 180 KSI AS per Dwg D350-748-141  
(MIL-T-6736 OR AMS 2759-1C)  
Sand Blast tube after Heat Treat  
Possible Supplier: Vac Aero  
Ensure Certificate of Conformity is attached

*12-05-3*

170

Receive & Inspect for Damage & Mat'l Certs

0.00

**\*170\***

Packaging

Memo

0.00

Packaging

Ensure certificate of conformaty is attached

*Purple/7* *(U)*

W/O:		WORK ORDER CHANGES					
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\*83283\*

Page 4

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Revision ID: U/R  
Item Name: Crosstube Turning Detail

Accept

\*N900040100\*

Setup Start \*NS1\*  
Stop \*NS2\*

Start Date: 16/04/2012 Start Qty: 1.00 \*1\*  
Required Date: 30/04/2012 Req'd Qty: 1.00 \*1\*

Cust Item ID:  
Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start \*NR1\*  
Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

180 QC6- Inspect dimensions to drawing

0.00 *S 12/09/13*

\*180\*

QC Memo

Quality Control

190 Packaging

0.00

\*190\*

Packaging Memo

Packaging Identify and stock in kanban rack

Location: *LG B87337*

*JW 12-09-13*

200 QC21- Final Inspection - Work Order Release

0.00

\*200\*

QC Memo

Quality Control

*13/5/22*

*W 12-09-14*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries



# Picklist Print

April-16-12 2:28:40 PM

Page 1

Work Order ID: 83283

\*83283\*

Parent Item: D350-748-141TRN

\*D350-748-141TRN\*

Parent Item Name: Crosstube Turning Detail

Start Date: 16/04/2012

Required Date: 30/04/2012

Start Qty: 1.00

Required Qty: 1.00

## Comments:

IPP Rev:A New Issue 08-03-06 DD verified by:ec  
 IPP Rev B Removed polish 08.04.02 EC verified by : DD  
 IPP Rev C Remove LPS-3 08.06.23 EC verified by DD IPP Rev C  
 11.02.24 as per dwg rev.F DD verf: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6015-125		Manufactured	No			110	Each	44.0000	1	1			

\*D6015-125\*

Crosstube Material

\*\*

## Location

## Loc Qty

## Loc Code

HALL

44

61380

4

(251)

40

manit 12/04/20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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NOTE: Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 83283
<b>Description:</b> Crosstube Assembly (AS350/355 High Fwd)		<b>Part Number:</b> D350-748-141
<b>Inspection Dwg:</b> D350-748-141 <b>Rev:</b> F		<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

Inspection Sheet	Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.240	+0.005/-0.000	2.245	/		vern	
	2.180	+0.005/-0.000	2.185	/			
	2.180	+0.005/-0.000	2.185	/			
	2.237	+0.005/-0.000	2.241	/			
	2.272	+0.005/-0.000	2.276	/			
	2.306	+0.005/-0.000	2.311	/			
	2.339	+0.007/-0.000	2.344	/			
	2.339	+0.007/-0.000	2.346	/			
	0.062	+/-0.010	.062	/		vern	
	4.26	+/-0.030	4.26	/		"	
	R0.063	+/-0.010	.063	/		RG	
	R0.50	+/-0.030	.500	/		"	
SIDE B	2.240	+0.005/-0.000	2.245	/		vern	
	2.180	+0.005/-0.000	2.183	/			
	2.180	+0.005/-0.000	2.185	/			
	2.237	+0.005/-0.000	2.242	/			
	2.272	+0.005/-0.000	2.276	/			
	2.306	+0.005/-0.000	2.311	/			
	2.339	+0.007/-0.000	2.344	/			
	2.339	+0.007/-0.000	2.346	/			
	0.062	+/-0.010	.062	/		vern	
	4.26	+/-0.030	4.26	/		"	
	R0.063	+/-0.010	.063	/		RG	
	R0.50	+/-0.030	.500	/		"	
	110.27	+/-0.060	110.27	/		tape	mm. l. 02

<b>Measured by:</b> KC/amm.l	<b>Audited by:</b> DP	<b>Preliminary Approval:</b>
<b>Date:</b> 12-4-24	<b>Date:</b> 12-4-30	<b>Date:</b>

Rev	Date	Change	Revised by	Approved
A	06.11.09	New Issue (P/O D350-748-101)	KJ/JLM	
B	07.10.24	Dwg Rev updated	KJ/EC/DD	
C	11.01.20	Dwg Rev updated	KJ	
D	11.07.26	Tolerance revised for 2.339 dimensions	KJ	

W/O:		WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

Item	Qty -141	Part Number	Description
1	X	D350-748-141	CROSSTUBE ASSEMBLY (AS 350/355 HI FWD)
2	1	D6015-125	CROSSTUBE (OR D6017-115)
3	2	D3502-1	SUPPORT
4	2	D2856-400-710	ABRASION STRIP
5	1	AELS-1032-225	INSERT
6	1	NAS1149D0363J	WASHER (OR AN960JD10)
7	2	MS21920-20	CLAMP (PER DART SPEC. M-MS21920-20)
8	1	MS27039-1-10	SCREW

# GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6015-125 OR D6017-115  
FINISHED LENGTH = 110.270±0.06
- 2) FINISH: MAGNETIC PARTICLE INSPECT PER DART QSI 038 4.2  
CADMIUM PLATE PER AMS-QQ-P-416B, CLASS 1, TYPE II  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: DART PART NUMBER "D350-748-141" AND BATCH NUMBER ON INSIDE OF CUFF  
PER DART QSI 044 6.4 (VIBRATING STYLUS)
- 7) WEIGHT: 30.45 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE, EXCEPT FOR Ø0.297 HOLE.
- 9) BLEND OUT ALL EDGES FROM MACHINING LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.  
NOTE: ALL HOLES ARE DRILLED AFTER BENDING.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 7 PASSES. MAXIMUM TUBE FLATTENING DUE TO  
BENDING IS 6% BASED ON O.D.
- 11) HEAT TREAT TO MIN. 180 KSI PER MIL-T-6736 OR AMS 2759-1C AFTER TURNING. ACCEPTABLE TO  
VERIFY TENSILE STRENGTH BY HARDNESS TEST PER ASTM E18 TO 40-45 HRC.
- 12) INSTALL D2856-400-710 ABRASION STRIPS WITH A GAP ON BOTTOM SIDE OF CROSSTUBE,  
CENTERED OPPOSITE D3502-1 SUPPORT, PER QSI 035.
- 13) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE  
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES,  
NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY.  
CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE. WHEN DRILLING HOLES EXTREME CARE  
MUST BE TAKEN AND CAREFUL DEBURRING PERFORMED TO ENSURE A CLEAN HOLE WITH NO  
CRACKING/CHIPPING/GROOVES.
- 14) TORQUE CLAMPS 60 TO 80 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT  
NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.
- 15) MAX TWIST AFTER BENDING: WITH XTUBE LAYED FLAT ON SURFACE, THE DIFFERENCE BETWEEN  
CUFF HEIGHTS FROM THE SURFACE MAY BE NO LARGER THAN 0.25 (ZN C1-3).

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER

NO. 83283 MLC  
12/04/16

UNDER REVIEW

11.07.12

RELEASED  
2011-01-18

F	ADD HRC TEST OPTION (B8-1) PER PAR 09-040, ADD TWIST LIMIT (A8-1, C1-3), ADD D6015-125 OPTION (C8-1), STOCK DIM NOW MACHINED (D1-4)	CP	10.11.23
E	REVISE GENERAL NOTES; UPDATE TO CURRENT ADD STANDARDS; RELOCATED FLAG #6 PER PAR 08-046 (ZN A6-3); TOLERANCES (ZN C6-3, D1-3)	RF	09.09.30
D	MAG. PARTICLE AND CAD PLATE AS MFD.	CP	06.10.31
C	ADD CAD PLATING	CP	06.08.14
B	ADD D6017-115 & PRIME AND PAINT	CP	06.06.30
A	NEW ISSUE	CP	06.03.31
REV.	DESCRIPTION	BY	DATE
DESIGN	97	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA DRAWING NO. REV. F D350-748-141 SHEET 1 OF 4 TITLE SCALE CROSSTUBE (AS 350/355 HI FWD) NTS COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR DISCLOSED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DRAWN	97		
CHECKED	97		
MFG. APPR.	97		
APPROVED	97		
DE APPR.	97		
DATE	10.11.23		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

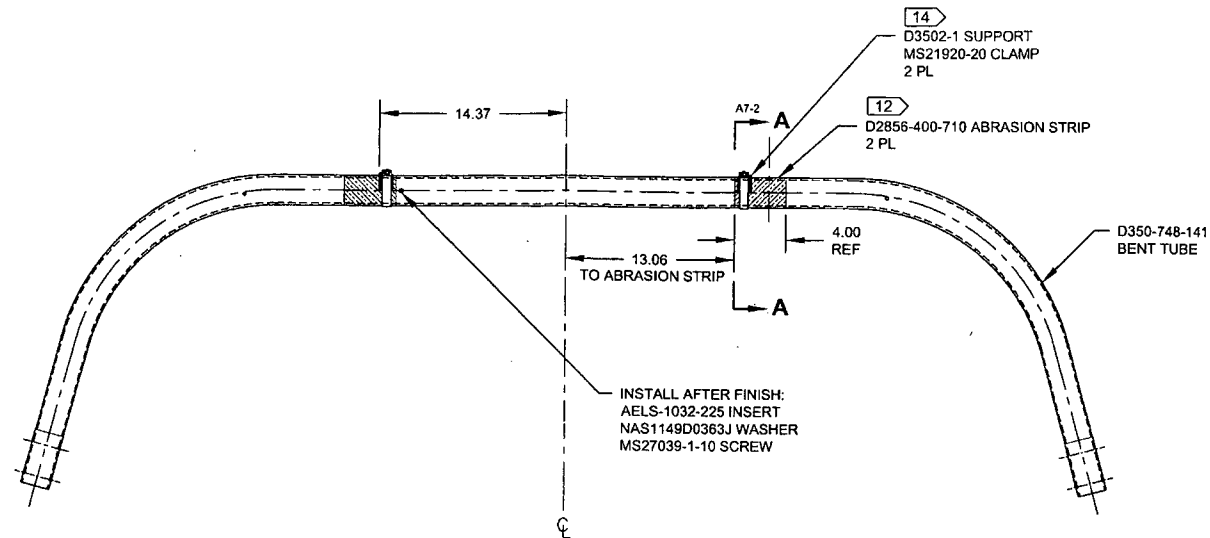
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

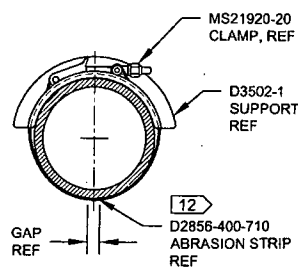
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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83283



**D350-748-141  
ASSEMBLY DETAIL**



**SECTION A-A** D4-2  
SCALE 4X

UNDER REVIEW

RELEASED  
2011-01-18

DESIGN	92	<b>DART AEROSPACE LTD</b>	
DRAWN	92	HAWKESBURY, ONTARIO, CANADA	
CHECKED	92	DRAWING NO.	REV. F
MFG. APPR.	92	D350-748-141	SHEET 2 OF 4
APPROVED	92	TITLE	SCALE
DE APPR.	92	CROSSTUBE (AS 350/355 HI FWD)	NTS
DATE	10.11.23	COPYRIGHT © 2006 BY DART AEROSPACE LTD	
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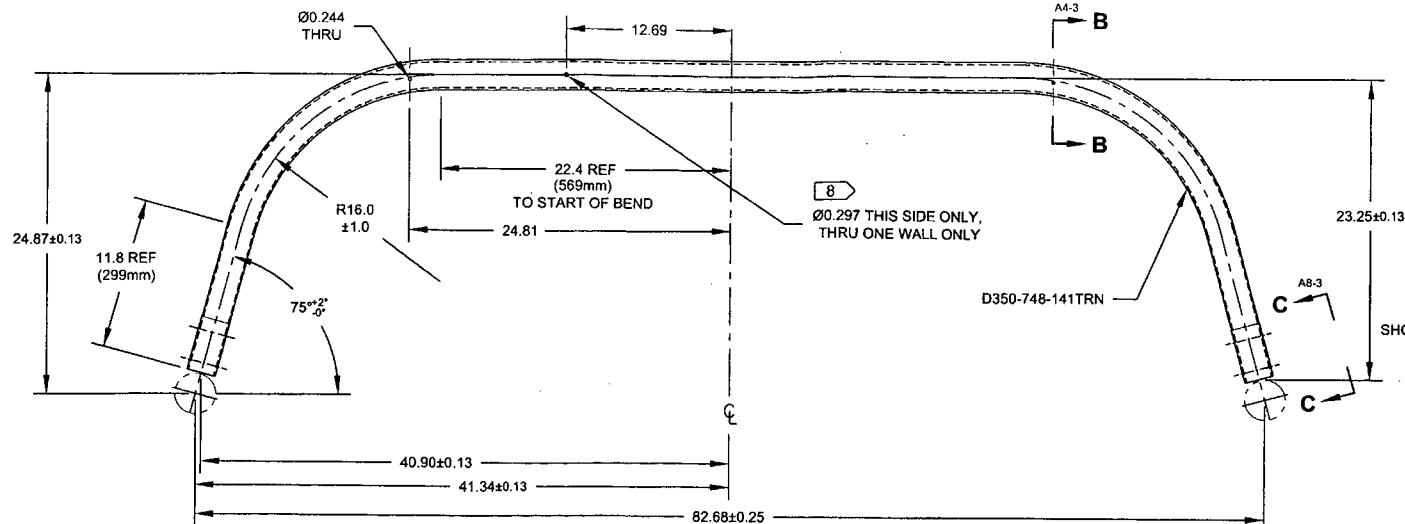
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

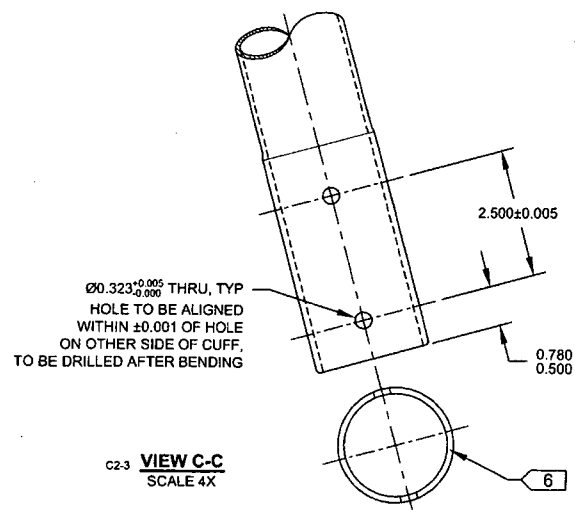
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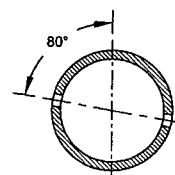




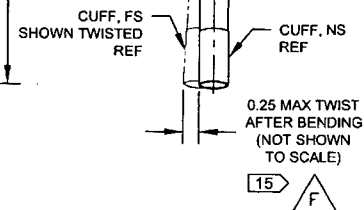
**D350-748-141**  
**BENDING AND DRILLING DETAIL** 10



C2-3 **VIEW C-C**  
 SCALE 4X



**SECTION B-B** D3-3  
 SCALE 4X



UNDER REVIEW  
 11.07.12

RELEASED  
 2011-01-18

DESIGN	qp	<b>DART AEROSPACE LTD</b>	
DRAWN	qp	HAWKESBURY, ONTARIO, CANADA	
CHECKED	h	DRAWING NO.	REV. F
MFG. APPR.	h	D350-748-141	SHEET 3 OF 4
APPROVED	h	TITLE	SCALE
DE APPR.	h	CROSSTUBE (AS 350/355 HI FWD)	NTS
DATE	10.11.23	COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR DISSEMINATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

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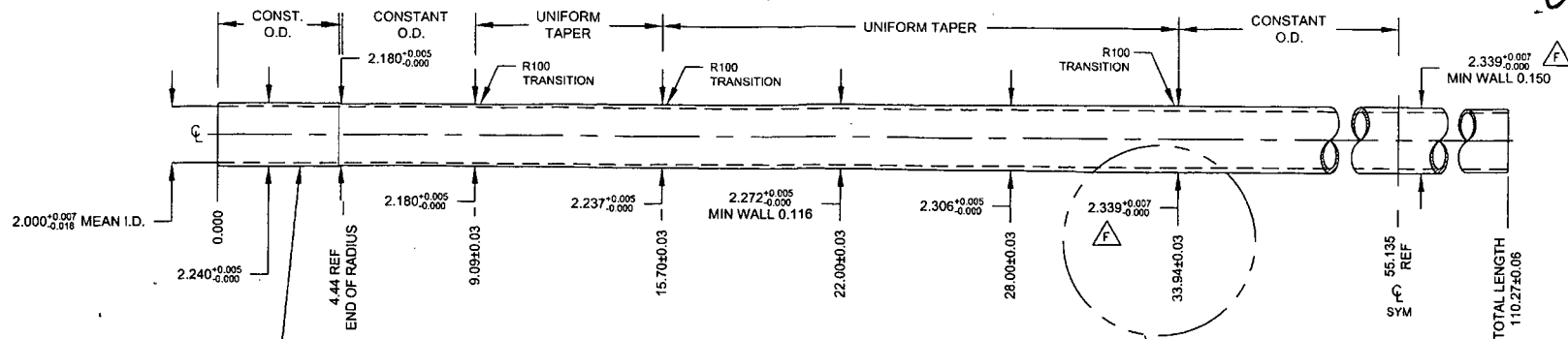
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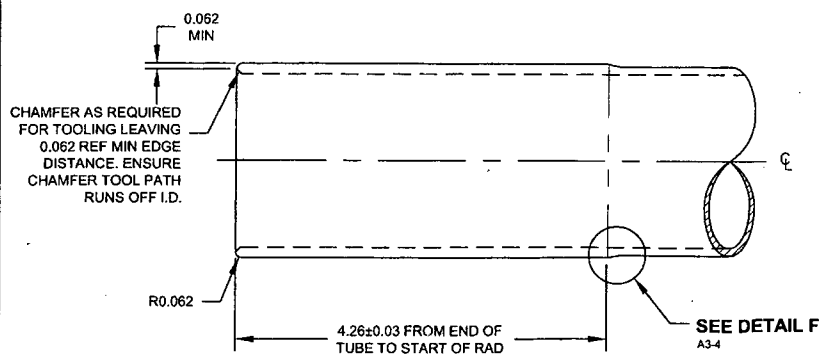


SEE DETAIL D  
A6-4

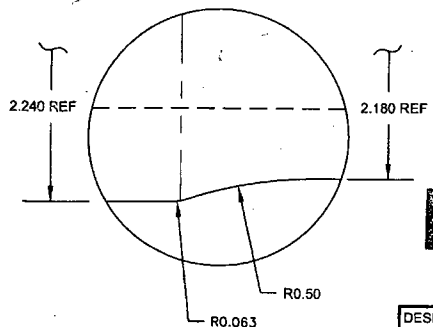
SEE DETAIL E  
A1-4

UNDER REVIEW  
11.07.12

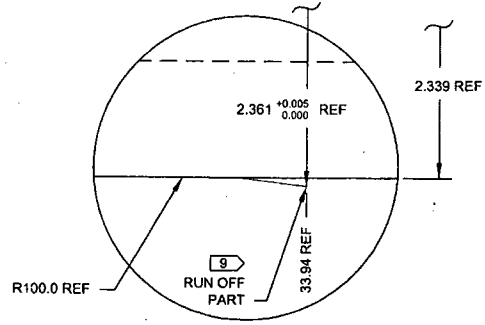
**D350-748-141TRN  
TURNING DETAIL**



**DETAIL D:  
CROSSTUBE CUFF** C7-4  
SCALE 3X



**DETAIL F:  
CUFF TRANSITION** A5-4  
NOT TO SCALE



**DETAIL E:  
TAPER RUN-OFF** C3-4  
NOT TO SCALE

RELEASED  
2011-01-18

DESIGN	90	<b>DART AEROSPACE LTD</b>
DRAWN	90	HAWKESBURY, ONTARIO, CANADA
CHECKED	11	DRAWING NO. REV. F
MFG. APPR.	11	D350-748-141 SHEET 4 OF 4
APPROVED	11	TITLE SCALE
DE APPR.	11	CROSSTUBE (AS 350/355 HI FWD) NTS
DATE	10.11.23	COPYRIGHT © 2006 BY DART AEROSPACE LTD
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



1000 E. Mermaid La., Wyndmoor (Phila.) PA 19038-8093  
Tel. (215) 233-2600 Fax (215) 233-5653

## Certification

### SOLD TO

Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7

June 5, 2012

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<b>Metlab Shop Order No:</b>	72197
<b>Purchase Order:</b>	16899
<b>Description:</b>	Crosstube
<b>Part No.:</b>	D350-748-141TRN, D350-748-241TRN
<b>Quantity:</b>	7 and 4 Pieces, Rcspectively
<b>Weight:</b>	500 Pounds
<b>Material:</b>	4130 Alloy Steel
<b>Specifications:</b>	Heat Treat to Minimum 180 KSI (MIL-T-6736OR AMS 2759-IC)
<b>Note:</b>	Need HRC 40 -45

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This is to certify that the above parts were processed as indicated above and conform to the specification requirements.

### Results:

HRC 45 (218 KSI Tensile Strength, Converted)

METLAB  
Quality Representative Mark Podob

MERCURY CONTAMINATION: During the heat treating process, testing and inspections, the product did not come in direct contact with mercury or any of its compounds nor with any mercury containing device.



Heat Treating and Metallurgical Consulting



<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 83283
<b>Description:</b> Crosstube Assembly (AS350/355 High Fwd)		<b>Part Number:</b> D350-748-141
<b>Inspection Dwg:</b> D350-748-141 Rev: F		<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

	Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.240	+0.005/-0.000	2.225	✓	✓	VERN	CNC -08
	2.180	+0.005/-0.000	2.184	✓			
	2.180	+0.005/-0.000	2.184	✓			
	2.237	+0.005/-0.000	2.235	✓			
	2.272	+0.005/-0.000	2.273	✓			
	2.306	+0.005/-0.000	2.308	✓			
	2.339	+0.007/-0.000	2.337	✓			
	2.339	+0.007/-0.000	2.332		✓		
	0.062	+/-0.010	.063	✓		RL	
	4.26	+/-0.030	4.26	✓		VERN	CNC -08
	R0.063	+/-0.010	.063	✓		RL	
	R0.50	+/-0.030	.50	✓		RL	
SIDE B	2.240	+0.005/-0.000	2.236	✓	✓	VERN	CNC 08
	2.180	+0.005/-0.000	2.173	✓			
	2.180	+0.005/-0.000	2.178	✓			
	2.237	+0.005/-0.000	2.234	✓			
	2.272	+0.005/-0.000	2.268	✓			
	2.306	+0.005/-0.000	2.304	✓			
	2.339	+0.007/-0.000	2.334	✓			
	2.339	+0.007/-0.000	2.332		✓		
	0.062	+/-0.010	.063	✓		RL	
	4.26	+/-0.030	4.26	✓		VERN	CNC 08
	R0.063	+/-0.010	.063	✓		RL	
	R0.50	+/-0.030	.50	✓		RL	
	110.27	+/-0.060	110.375	✓		TAPE	LG 05

2.334  
@ SUPPLY

2.339  
@ SUPPLY

<b>Measured by:</b>		<b>Audited by:</b>		<b>Preliminary Approval:</b>	
<b>Date:</b>		<b>Date:</b>		<b>Date:</b>	

Rev	Date	Change	Revised by	Approved
A	06.11.09	New Issue (P/O D350-748-101)	KJ/JLM	
B	07.10.24	Dwg Rev updated	KJ/EC/DD	
C	11.01.20	Dwg Rev updated	KJ	
D	11.07.26	Tolerance revised for 2.339 dimensions	KJ	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

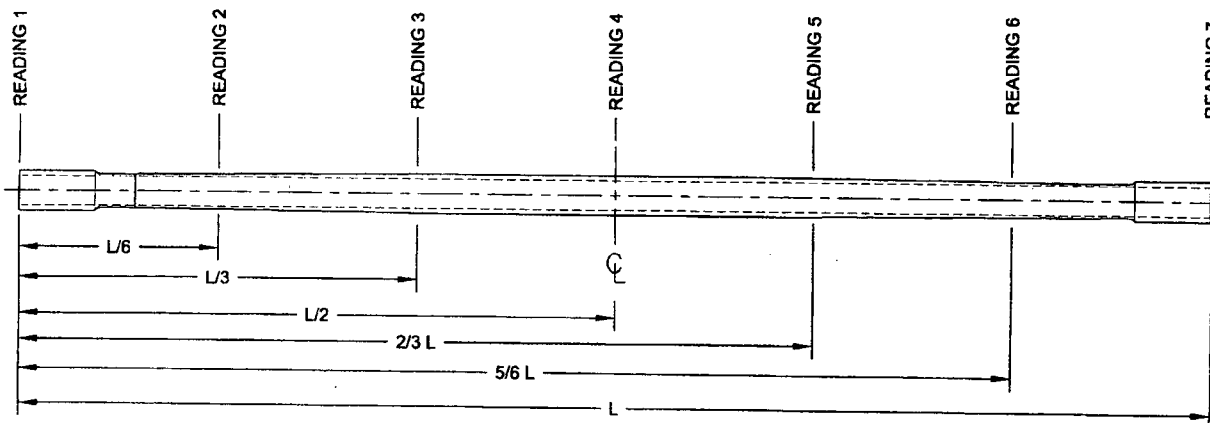
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	
<b>Description:</b> Crosstube Assembly (AS350/355 High Fwd)		<b>Part Number:</b>	<b>D350-748-141</b>
<b>Inspection Dwg:</b> D350-748-141 <b>Rev:</b> F		<b>Page 2 of 2</b>	

### WALL THICKNESS MEASUREMENT



Location	WALL THICKNESS MEASUREMENT (IN)				Deviation $\Delta w$ (max-min)	TOLERANCE
	w1	w2	w3	w4		
READING 1 L= 0"	.125	.123	.117	.121	.008	0.030"
READING 2 L=	.110	.110	.130	.135	.025	
READING 3 L=	.174	.172	.175	.182	.010	
READING 4 L=	.176	.171	.170	.176	.006	
READING 5 L=	.184	.170	.168	.183	.016	
READING 6 L=	.135	.128	.124	.132	.011	
READING 7 L=	.123	.119	.123	.124	.005	

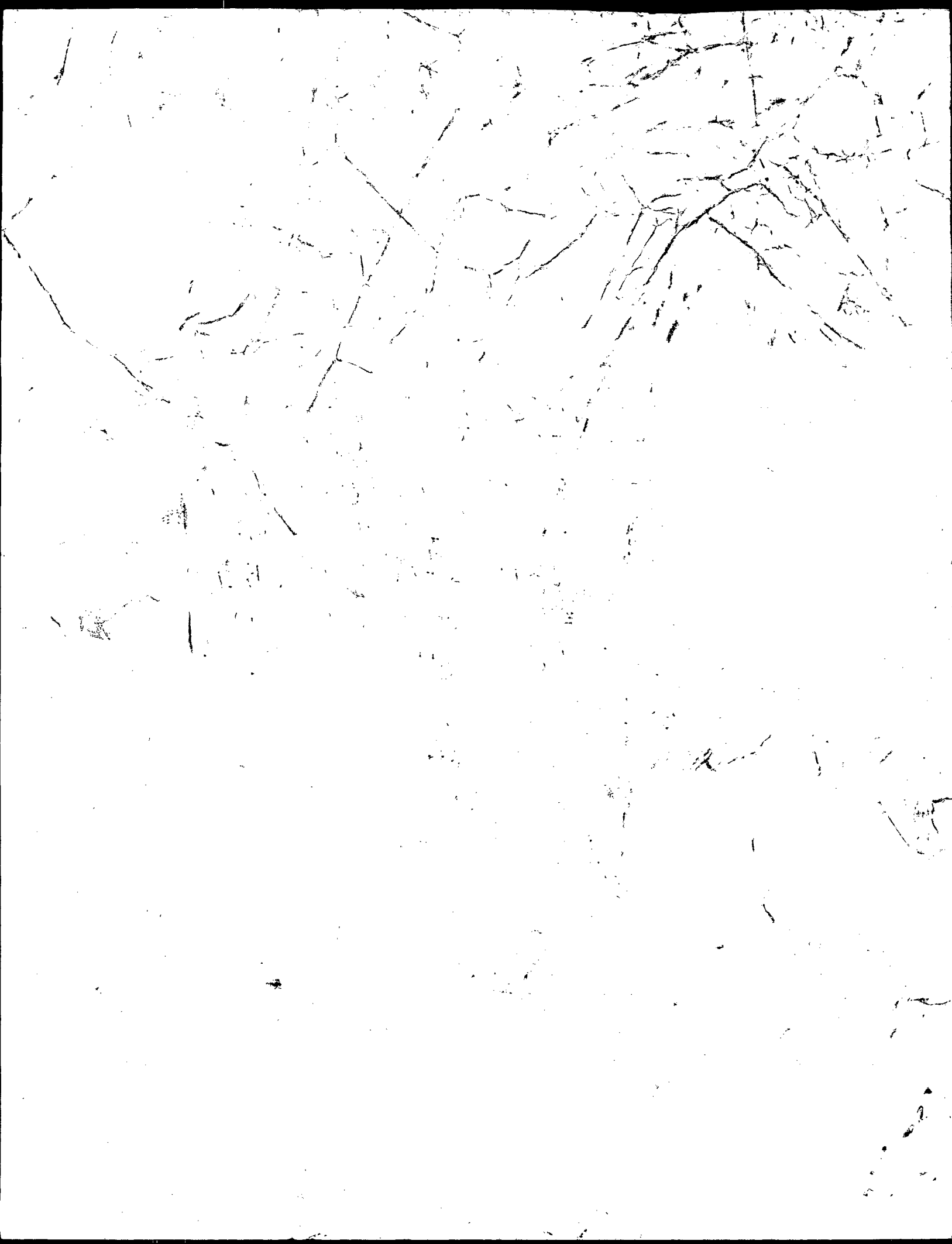
#### Calibration Result

Actual Block Thickness: 100-300

Sitescan 250 Measured Thickness: 100-300

<b>Measured by:</b> <u>KC</u> <b>Date:</b> <u>12-7-27</u>	<b>Audited by:</b> _____ <b>Date:</b> _____	<b>Preliminary Approval:</b> _____ <b>Date:</b> _____
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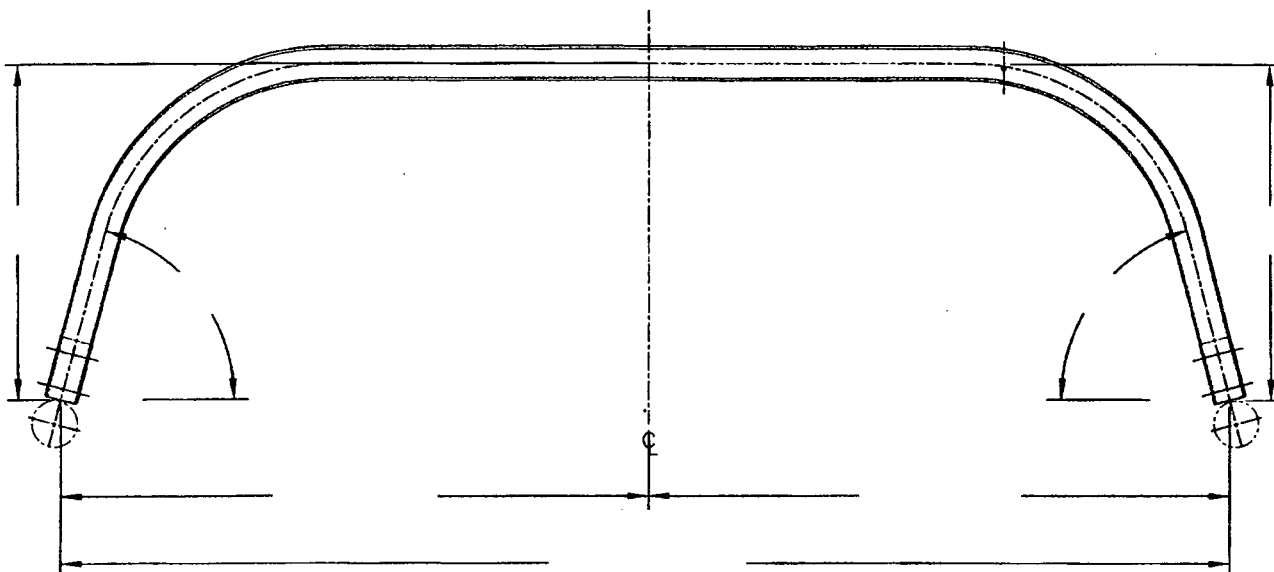
Rev	Date	Change	Revised by	Approved
A	06.11.09	New Issue (P/O D350-748-101)	KJ/JLM	
B	07.10.24	Dwg Rev updated	KJ/EC/DD	
C	11.01.20	Dwg Rev updated	KJ	
D	11.07.26	Tolerance revised for 2.339 dimensions	KJ	
E	12.06.04	Wall thickness form added	KJ	



<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 83283
<b>Description:</b> Crosstube High Fwd (AS350/355)		<b>Part Number:</b> D350-748-101
<b>Inspection Dwg:</b> D350-748-141	<b>Rev:</b> F	<b>Page 1 of 1</b>

*AFTER stress Relief.*

Required Dimension	Min	Max
Height	23.12	23.38
1/2 Span	40.77	41.03
Angle	75	77
Total Span	81.55	82.05
Bending Passes	7	--
Crushing	--	6%
Twist	--	0.25



	Side A	Side B
Bending Passes		
Crushing		
Comments		

QC15 Inspection	
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	10.08.23	Dwg Rev updated	KJ	
C	11.11.07	Dwg Rev updated	KJ	
D	12.04.16	Added bending, crushing & twist dimensions	KJ	